

**Claims**

1. Apparatus for applying codes onto packaged consumer products, wherein

5       said products are packed individually and then further packed into groups of products;

          at least one coder applies information to said packaging;

          said coder receives instructions from a processing system;

          said processing system receives input data representing an image to  
10       be coded onto said packaging and generates said instructions for said coder, wherein

          said processing system generates said instructions with reference to the capabilities of said coder such that, in dependence upon said capabilities, said processing system either

15       (a) instructs said coder to generate a graphical representation in response to coded instructions, or

          (b) said processing system assists said coder to generate said graphical representation before supplying lower level instructions to said coder.

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2. Apparatus according to claim 1, wherein said groups of products are further packed into tradable units.

3. Apparatus according to claim 1, wherein a first coder applies  
25       a code to the printed pack of a consumer product.

product is a perishable food item.

5. Apparatus according to claim 4, wherein said consumer product is a pre-prepared meal for consumption within two to twenty days.

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6. Apparatus according to claim 1, wherein a second coder applies a code to an assembly of products.

7. Apparatus according to claim 2, wherein a third coder applies a code to a packaged unit having a plurality of assemblies packed therein.

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8. Apparatus according to claim 1, wherein said processing system receives an instruction to code a date.

9. Apparatus according to claim 8, wherein said data is a sell by date or a use by date.

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10. Apparatus according to claim 8, wherein said processing system instructs a coder to code a date.

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11. Apparatus according to claim 8, wherein said processing system calculates said date and supplies a character string to said coder.

12. Apparatus according to claim 8, wherein said processing system calculates said date, generates a bitmap representation of said date

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13. Apparatus according to claim 1, wherein said processing system receives an instruction to code an incrementing number onto a package.

5           14. Apparatus according to claim 13, wherein said processing system instructs a coder to calculate and print an incrementing number.

10           15. Apparatus according to claim 13, wherein said processing system calculates said number, generates a character string and instructs a coder to print said character string.

15           16. Apparatus according to claim 13, wherein said processing system calculates said number, generates a representation of said number as a bitmap and instructs said coder to print said bitmap.

17. Apparatus according to claim 1, wherein said processing system receives an instruction to code a barcode.

20           18. Apparatus according to claim 17, wherein said processing system generates a character string representing said barcode and supplies said character string to a coder such that said coder generates said barcode from said character string.

25           19. Apparatus according to claim 17, wherein said processing system generates said barcode, said processing system represents said

20. Apparatus according to claim 1, wherein said processing system receives an instruction to code text.

21. Apparatus according to claim 20, wherein said processing  
5 system instructs said coder to code said text using a font.

22. Apparatus according to claim 20, wherein the orientation of said font is examined by said processing system, said coder is instructed to code a font if the orientation is in a preferred direction or said processing  
10 system is configured to generate a bitmap representation of said font if said font is not in a preferred orientation.

23. Apparatus according to claim 20, wherein said processing system generates a bitmap representation of said font and said bitmap to  
15 said coder.

24. A method of applying codes onto packaged consumer products, wherein said products are packed individually and then further packed into groups of products, wherein at least one coder applies  
20 information to said packaging and said coder receives instructions from a processing system, said method comprising the steps of:

receiving composite data representing information to be coded onto said packaging;

generating coder instructions with reference to the capabilities of a  
25 coder such that, in dependence upon said capabilities, said processing

response to said instructions, or

(b) assists said coder to generate said graphical representation before supplying lower level instructions to said coder.

5           **25.** A method according to claim **24**, wherein a date is calculated and said calculated date is supplied to a coder as a character string.

**26.** A method according to claim **24**, wherein a date is calculated, said calculated date is rendered as a bitmap and said bitmap is supplied to  
10 said coder.

**27.** A method according to claim **24**, wherein an incrementing number is calculated and said calculated number is supplied to a coder as a character string.

15           **28.** A method according to claim **24**, wherein an incrementing number is calculated, a bitmap of said calculated number is rendered and said rendered bitmap is supplied to a coder.

20           **29.** A method according to claim **24**, wherein the data required to be incorporated within a barcode is determined and said determined data is conveyed to a coder in the form of a character string.

**30.** A method according to claim **24**, wherein the information  
25 required for representation as a barcode is calculated, said barcode is

31. A computer-readable medium having computer-readable instructions executable by a computer such that, when executing said instructions, a computer will perform the steps of:

5 receiving input data representing an image to be coded onto said packaging;

generating coder instructions with reference to the capabilities of a coder such that, in dependent upon said capabilities, said processing system either

10 (a) instructs said coder to generate a graphical representation in response to said instructions, or

(b) assists said coder to generate said graphical representation before supplying lower level instructions to said coder.

32. A computer-readable medium having computer-readable instructions according to claim 31, such that when executing said instructions a computer will assist in the generation of a date, an incremental count or a barcode.

33. A method of communicating between a first processing device configured to facilitate the design of codes for packaged consumer products and a second processing device configured to control coding machines for coding said packaged products in response to said design, wherein

25 data transmitted from said first processing station to said second processing station defines said codes in a generic non-coder specific

instructs specific coders to apply codes in response to a generic code design and a definition of capabilities for a specific coder.

5           34.   A method according to claim 33, wherein said generic non-coder specific format is consistent with standards of the extensible mark-up language (XML) recommendations.

10           35.   A method according to claim 33, wherein said generic non-coder specific format defines a plurality of fields, wherein each of said fields specifies generic instructions for a specific portion of the code.

          36.   A method according to claim 35, wherein a field represents information concerning dates.

15           37.   A method according to claim 35, wherein a field represents information concerning barcodes.

          38.   A method according to claim 35, wherein a field represents information concerning an incremental counter.

20           39.   A computer-readable memory system having computer-readable data stored therein, comprising

          a generic code description for a code to be applied to packaged consumer products;

25           a specification of coder capabilities; and  
          program instructions to produce coder specific code with reference

40. A computer-readable memory system according to claim 39, wherein said program instructions are configured to assist with the generation of a date, a barcode, or an incrementing counter.